

National Aeronautics and
Space Administration
Goddard Space Flight Center

Inside Wallops

Wallops Flight Facility, Wallops Island, Virginia

Volume XIX-97

Number 35

November 10, 1997

Space Research Shines a Light on Tumors to Save Lives

Special lighting technology developed for NASA's commercial plant growth experiments in space may help treat cancerous brain tumors in children. A treatment technique called photodynamic therapy is using tiny pinhead-size Light Emitting Diodes (LEDs) to activate light-sensitive, tumor-treating drugs.

Experiments indicate that when special tumor-fighting drugs are illuminated with LEDs, the tumors can be more effectively destroyed than with conventional surgery. The light source is compact and mechanically more reliable than lasers and other light sources used to treat cancer. The entire light source and cooling system is only the size of a medium suitcase.

Dr. Harry Whelan of the Medical College of Milwaukee, WI, has

obtained Food and Drug Administration approval to use the LED probe for the treatment of children's brain tumors on a trial basis. Dr. Whelan's therapy involves injecting the patient's bloodstream with a drug called Photofrin II. Photofrin II attaches to the unwanted tissues and permeates into them, leaving the surrounding tissues unaffected. Dr. Whelan then places the new solid-state LED probe near the affected tissue to illuminate the tumor and activate the Photofrin II drug. Once activated by the light, the drug destroys the tumor's cells, leaving the normal brain tissues virtually untouched.

The LED probe can be used for hours at a time and remains cool to the touch. The entire LED unit can be purchased for a fraction of the cost of a laser.

NASA Completes X-33 Environmental Impact Statement Process

NASA has announced completion of the Record of Decision (ROD) on the X-33 Environmental Impact Statement (EIS), and intends to proceed with the preferred X-33 flight test program as described in the Final EIS issued Oct. 3.

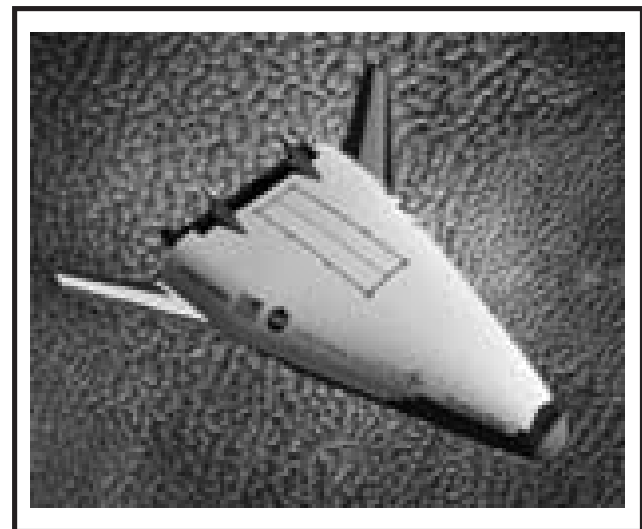
been considered for use as a short-range landing site. However, flights into Dugway's airfield some 450 miles from Edwards better match the initial flight demonstration requirements.

The X-33 environmental study considered issues such as public safety, noise, impacts on general aviation, and effects on biological, natural and other resources. Two launch sites and five landing sites were evaluated for potential use.

The final decision on a flight test program was based on programmatic, technical, and other considerations as well as environmental factors.

Overall, environmental impacts of the program are expected to be low at all operational sites.

The X-33 is being developed under a cooperative agreement between NASA and Lockheed Martin Skunk Works, Palmdale, CA.. NASA has budgeted \$941 million for the X-33 program through 1999. Lockheed Martin will invest at least \$212 million in the X-33 program.



All 15 test flights of the X-33 will be conducted from the launch site at Haystack Butte on the eastern portion of Edwards Air Force Base, CA, to landing sites at Michael Army Air Field, Dugway Proving Ground, UT, and Malmstrom Air Force Base near Great Falls, MT.

A third landing site, Silurian Lake, a dry lake bed near Baker, CA, had

Job Fair Scheduled

The Suborbital Projects and Operations Directorate (Code 800) will hold a Job Fair from 1 to 3 p.m., Thursday, Nov. 13, in Bldg. D-10 at Wallops. The Fair is open to all Goddard Greenbelt and Wallops civil service employees.

Code 800 expects to advertise approximately 25 positions prior to the end of November. The positions, which reach across various skill mixes, will be advertised as competitive placement, refocusing opportunity, an reassignment opportunity bulletins. Applicants centerwide will be considered for the positions.

During the Job Fair, Code 800 managers will be available to discuss the vacancies within the offices of the "new" Code 800. Personnel from the Office of Human Resources also will be available to provide application forms and answer questions.

New AETD Appointments

The following appointments have been made to the Applied Engineering and Technology Directorate (AETD) in anticipation of the proposed reorganization.

Dean Price has been selected as an associate head of the Electrical Systems Branch (Code 565) and Alan Selser has been selected as an associate head of the Microwave Systems Branch (Code 567).

In the Guidance, Navigation and Control Center (GN&C), Joel Simpson has been selected as the associate head of the GN&C Systems Engineering Branch (Code 571).

Jay Pittman has been selected as an associate head of the Real-Time Software Engineering Branch (Code 584).

Wallops News Shorts

A Terrier-Improved Orion sounding rocket was successfully launched from the Andoya Rocket Range, Norway on Nov. 5.

The principal investigator was Dr. Timothy Kane, Penn State University and the Wallops payload manager was Dave Moltedo, Code 823.

Jekyll and Hyde Weather

by Jim Buchanan, Meteorologist

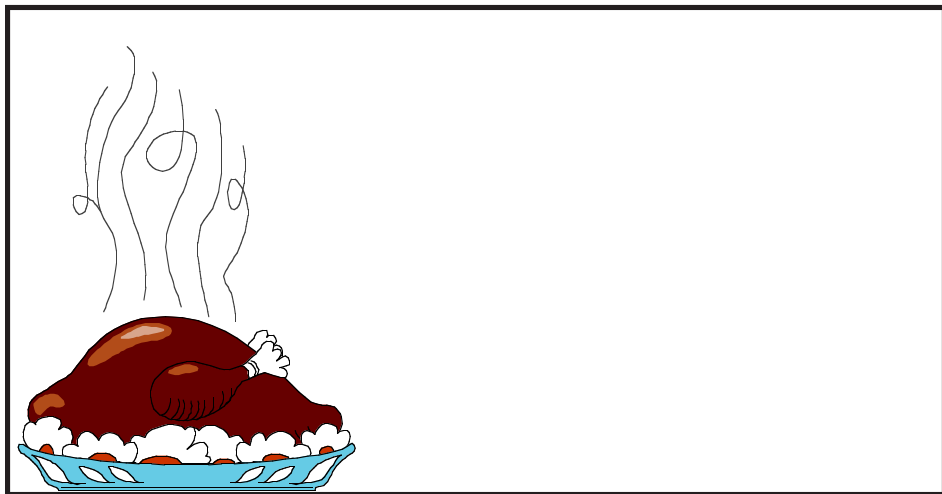
October started out more like a late spring month rather than a harvest month. The average high for the first 15 days of October was almost 75 degrees Fahrenheit. A record high of 89 degrees was recorded on Oct. 6 and a record-tying 81 degrees was recorded on Oct. 7. By contrast, the high temperature for the last part of the month averaged 61degrees. A combination of the different temperatures made an average daily high of 67.6 degrees, which was still more than 2 degrees below normal. Night-time temperature trends were the same with the low the first part of the month averaging over 55 degrees and nighttime lows for the second half of the month averaging 44 degrees. The monthly average low of 49.6 degrees was almost 1.5 degrees below normal. The monthly average of 58.6 degrees was again almost 1.5 degrees below normal.

Jekyll and Hyde also interfered with precipitation for the month with the first half being dry and the second half very wet. The first trace of rain fell on Oct. 13. Ten of the last 18 days in October had measurable precipitation. There was only one more day with just a trace of rain fall. The largest amount recorded in a 24-hour period was 1.34 inches falling on Oct. 18 and 19. There also was over an inch of rain on Oct. 26. October is normally one of our driest months, but 4.24 inches were recorded. This is almost 1.5 inches more than normal.

A relatively quiet Atlantic hurricane season officially ended on Nov. 1. There were seven named storms but only the remnants of one, Hurricane Danny, affected the Eastern Shore. Danny crossed over the Wallops area in July as a tropical storm, dropping 2.24 inches of rain but caused no reported damage.

As December approaches, so does the first real chance of measurable snowfall for the winter season. There is normally one snow day for the month with snowfall averaging 1.5 inches. Total average precipitation for the month is 3.13 inches. The average daily high temperature is 50 degrees with an overnight average low being just below freezing, 31.8 degrees. While the average daily temperature of 40.4 degrees is definitely chilly, December is not usually our coldest month. Temperature extremes are a comfortable record high of 76 degrees set on Dec. 8, 1978 and a record low of 4 degrees set on Dec. 21, 1989.

With the holiday season upon us, be mindful of sometimes rapidly changing road conditions and be sure to operate all heating devices safely. Have a great Thanksgiving.



Thanksgiving Dinner

The Thanksgiving dinner will be held Nov. 20 in the cafeteria or by take out order. The cost is \$5.

The menu will consist of: mashed potatoes, homemade dressing, roast turkey and homemade dumplings, cranberry sauce, dinner rolls and butter, turnip greens and green beans. For dessert select pumpkin, apple or sweet potato pie. Sodas will be provided.

All take out order forms must be returned to the WEMA business office, Bldg. F-160 no later than Monday, Nov. 17. NO ORDERS WILL BE TAKEN BY PHONE. Pick-up times for take out orders are 11 and 11:30 a.m. on Nov. 20. For further information or to obtain an order form call x2010.

It's Open Season!

The Federal Employees Health Benefits Open Season will begin Nov. 10 and run through Dec. 8, 1997. Enrollment Information and Plan Comparison Chart booklets for 1998 will be distributed to all employees after the open season begins. For more information call x2394 or 66-8208.

The Thrift Savings Open Season will begin Nov. 15, 1997 and close Jan. 31, 1998. For more information call x2394.

Prayer Club Meets

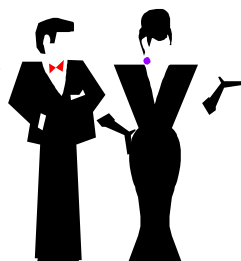
The Wallops Prayer Club will meet at noon, Nov. 12 in Building E-104, room 310. Wayne Hart will be the guest speaker.

Line Dancing Returns

by Jerry Wall

Back by popular demand, line dancing lessons will once again be held every Monday from 5 p.m. to 7 p.m. in Bldg. F-3. The cost is \$5 per person. Instructor Linda Wilgus will be returning.

This activity sponsored by your Moral Activities Committee.



Center Director's Colloquia Series

Managing Federal Research and Development Downsizing — New Models for Science and Technology Funding

Who: Dr. Philip M. Smith, Science Policy Advisor and Author

When: Wednesday, November 19, 3-4:30 p.m.

Where: Greenbelt (Wallops via TV channel 6)

Description:

Shifting national priorities and strong pressures to eliminate the Federal deficit have notably reduced the Federal Research and Development (R&D) budget for the past several years. This trend will likely continue as deficit reduction is achieved through the discretionary portion of the Federal budget from which NASA funds are appropriated.

Dr. Philip M. Smith, a former executive officer of the National Academy of Sciences and National Research Council and a veteran of numerous Federal science policy positions, will discuss the need to reassess national Science and Technology (S&T) policies and pose alternative models for funding Federal S&T in this time of Federal downsizing. Smith believes spreading budget cuts across the board will create damaging effects on S&T, restricting the capacity of the Federal S&T enterprise to respond to new research needs and opportunities.

For Sale

Cardio glide plus exerciser. Like new. \$100. Call (757) 787-7290 after 5 p.m.

Inside Wallops is an official publication of Goddard Space Flight Center and is published by the Wallops Office of Public Affairs, Extension 1584 or 1579, in the interest of Wallops employees

Editor	Betty Flowers
Photography	Optical Section
Printing	Printing Management Office